## AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application. Applicant has canceled Claims 23-47 without prejudice and added new Claims 48-67 as follows:

1-47. (Canceled)

48. (New) A method of processing iris image data, comprising:

providing data representing an image of an iris of an eye;

performing a Daubechies wavelet transform on the iris image data so as to create multiple pieces of transformed image data;

selecting one from the multiple pieces of transformed image data;

repeating to perform the Daubechies wavelet transform on a piece of image data so as to create additional multiple pieces of transformed image data and subsequently to select one from the additional multiple piece of the transformed image data, wherein the piece of image data on which the Daubechies wavelet transform is repeated is the selected piece that is selected in the immediately previous selecting step, wherein performing the Daubechies wavelet transform and subsequently selecting are repeated at least once;

upon completion of the repeating step, forming a characteristic vector of the iris image of the eye, wherein the characteristic vector comprises quantatized pixel values of the selected piece of transformed image data that is selected in the last selecting of the repeating step, wherein the quantitized pixel values comprise at least two positive values and at least two negative values;

providing a reference characteristic vector of a registered iris image;

computing an inner product of the reference characteristic vector and the characteristic vector of the iris image of the eye;

determining whether the iris image of the eye matches with the registered iris image based on a value of the inner product.

49. (New) The method of Claim 48, wherein the quantitized pixel values comprise one of the at least two positive values has the same absolute value as one of the at least two negative values.

50.     (New) The method of Claim 48, wherein the quantitized pixel values comprise a first positive value and a second positive value, wherein the second positive value is greater than two times of the first positive value.

51.     (New) The method of Claim 48, wherein each piece of transformed image data comprise a lesser amount of data than the image data prior to performing the Daubechies wavelet transform.

52.     (New) The method of Claim 48, wherein the iris image is determined to match the registered iris image when the inner product is greater than a predetermined threshold value.

53.     (New) The method of Claim 48, wherein the selected piece of transformed image data which is selected in each selection step represents more information on iris patterns than the other pieces of transformed image data created in the Daubechies wavelet transform which is performed immediately prior to each selection step.

54.     (New) The method of Claim 52, the selected piece of transformed image data which is selected in each selection step comprises more low frequency components than the other pieces of transformed image data created in the Daubechies wavelet transform which is performed immediately prior to each selection step.

55.     (New) The method of Claim 48, wherein each of the multiple pieces of transformed image data created in each Daubechies wavelet transform is classified based on frequency components of the data.

56.     (New) The method of Claim 48, wherein each of the multiple pieces of transformed image data created in each Daubechies wavelet transform is classified based on frequency components of each piece of the transformed image data in two perpendicular directions.

57.     (New) The method of Claim 48, wherein each of the multiple pieces of transformed image data created in each Daubechies wavelet transform is classified one of HH, HL, LH and LL, wherein HH represents high frequency components in a first direction and a second direction, the first and second directions being perpendicular to each other, wherein HL represents a high frequency component in the first direction and a low frequency component in the second direction, wherein LH represents a low frequency component in the first direction and

a high frequency component in the second direction, and wherein LL represents low frequency components in the first and second directions.

58.    (New) The method of Claim 56, wherein the characteristic vector comprises information of at least one piece of the transformed image data which are classified as HH.

59.    (New) The method of Claim 57, wherein the information of the HH comprises an average value of the piece of transformed image data classified as HH.

60.    (New) The method of Claim 56, wherein the characteristic vector comprises information of the selected piece that is selected in the lasts selecting of the repeating step is classified as LL.

61.    (New) The method of Claim 60, wherein the information of the LL comprises a substantial portion of the transformed image data of the last selected data piece.

62.    (New) The method of Claim 59, wherein the information of the LL comprises all of the transformed image data of the last selected data piece.

63.    (New) The method of Claim 59, wherein a total number of the Daubechies wavelet transform is N, wherein the characteristic vector comprises an N-1 number of values of the HH data pieces.

64.    (New) The method of Claim 48, wherein the number of repetitions is set such that the total number of the Daubechies wavelet transform is from 2 to 7.

65.    (New) The method of Claim 48, wherein the number of repetitions is set such that the total number of the Daubechies wavelet transform is from 4.

66.    (New) A device for use in processing iris image data, comprising:

means for providing data representing an image of an iris of an eye;

means for performing a Daubechies wavelet transform on the iris image data, thereby creating multiple pieces of transformed image data, wherein the means for performing the transform is configured to repeat the Daubechies wavelet transform on one of the multiple pieces of transformed image data created in the immediately previous transform;

means for forming a characteristic vector of one piece of transformed image data;

a database comprising a reference characteristic vector of a registered iris image;

means for computing an inner product of the reference characteristic vector and the characteristic vector of the iris image of the eye from the means for forming; and

means for determining whether the iris image of the eye matches with the registered iris image based on the inner product.

67.    (New)  A security system comprising:

an input device configured to receive data representing an image of an iris of an eye;

a first circuit configured to perform a Daubechies wavelet transform on the iris image data and further configured to repeat the Daubechies wavelet transform on a subset of the transformed iris image data a predetermined number of times so as to generate a further subset of transformed image data;

a second circuit configured to form a characteristic vector of the iris image comprises information of the further subset of transformed image data from the first circuit;

a memory configured to store a reference characteristic vector of a registered iris image;

a third circuit configured to compute an inner product of the reference characteristic vector and the characteristic vector from the second circuit so as to determine whether the iris image matches a pre-registered iris image.